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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/617,736 07/17/00 XIE

F NFCS-00-011

EXAMINER

MMC2/1019

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ART UNIT

PAPER NUMBER

2874

DATE MAILED:

10/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/617,736

Applicant(s)

XIE ET AL

Examiner

Kevin S Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: *Brian Healy*

DETAILED ACTION

Drawings

1. The drawings are objected to because reference number (410) in Fig. 5 does not designate an axis. Correction is required.

Specification

2. The disclosure is objected to because of the following informalities:

On page 2, line 6, reference number (102) should be changed to (104), the cladding in Fig. 1 is designated as reference number (104).

On page 9, line 15, reference number (600) should be changed to (400). The pigtail pair is shown as reference number (400) in Fig. 4.

In the last paragraph on page 9 of the specification, the reference numbers for the fibers have been reversed. In the paragraph, where the specification refers to fiber (414), it should refer to fiber (402), where the specification refers to fiber (402), it should refer to fiber (414).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to Claims 1 and 8, it is unclear what is meant by "principal axes" and what is meant by "secondary axes" in this claim. A polarization maintaining fiber may have many axes. It is also unclear what is meant by the term "grouping" in this claim. How are the fibers grouped? Are the fibers separate from each other or are they joined together in some manner?

Referring to Claims 5 and 15, it is unclear what is meant by "tiger fiber" in this claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 4, 7, 8, 10, 11, and 14 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,420,949 to Arima et al.

Referring to Claims 1 and 8, Arima et al. discloses all of the limitations of the claimed inventions. Arima et al. discloses polarization-maintaining fibers grouped together having multiple axes (X and Y) that intersect. In Fig. 2(A), The Y axis

represents the fast axis for each fiber, while the slow axis of each fiber runs vertically through the stress applying parts (13a,13b,13c,13d). See the figures of the reference.

Referring to Claims 3 and 10, Arima et al. discloses all of the limitations of the claimed inventions. Arima et al. discloses polarization-maintaining fibers grouped together where the fibers have parallel fast and slow axes. See Fig. 2(A) or 3(F).

Referring to Claims 4 and 11, Arima et al. discloses all of the limitations of the claimed inventions. Arima et al. discloses that the polarization fibers may be of PANDA type fibers. See Fig. 3 along with col. 4, lines 53-65.

Referring to Claims 7 and 14, Arima et al. discloses all of the limitations of the claimed inventions. Arima et al. discloses that the polarization fibers include Stress Applying Parts (SAP). See col. 5, lines 13-30.

7. Claims 2, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,689,578 to Yamauchi et al.

Referring to Claims 2 and 9, Yamauchi et al. discloses all of the limitations of the claimed inventions. Yamauchi et al. discloses polarization-maintaining fibers grouped together having polarization planes that are parallel (Fig. 10a) and having polarization planes that are perpendicular (Fig. 11a).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,420,949 to Arima et al. and U.S. Patent No. 5,949,941 to DiGiovanni.

Referring to Claims 6 and 13, Arima et al. discloses all of the limitations of the claimed inventions, except for the polarization maintaining fiber comprising a bowtie fiber. DiGiovanni discloses that bowtie fibers are commonly used for the purpose of maintaining polarization in an optical fiber. See col. 2, lines 43-66, along with Fig. 1C. Since Arima et al. and Digiovanni are both from the same field of endeavor, the purpose disclosed by Digiovanni would have been recognized in the pertinent art of Arima et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a bowtie fiber for the purpose of maintaining polarization in an optical fiber.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (703) 605-5296. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 307-0956.

ksw
October 15, 2001



Brian Healy
Primary Examiner